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Global Financial and Macroeconomic Fluctuations: Implications for African Economic Development

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ABSTRACT

In the light of dampening effects of the global financial melt-down, the paper examines the trends in financial flows, particularly foreign direct investment (FDI) and the possible effects of the global financial crisis and macroeconomic fluctuations on economic development in Africa. The paper employs simple panel data approach which links panel data methodology that allows for individual heterogeneity, while the method of estimation is the Fixed and Random Effects regression. The method of panel VAR is also used in the paper with a view to capturing the dynamic effects of FDI inflows for policy analysis using the impulse response functions. The number of countries (27) included in the paper and the period of estimation, 1987-2007, are informed by data availability. With some suggestions on the direction of policy to stimulate increased financial flows, the paper opines that there is the need for comparative dynamics of African economies in order to return to the path of sustainable growth and development.

INTRODUCTION

The financial turmoil that erupted in August 2007, the unprecedented oil price increase and the possibility of tighter monetary policy in a number of countries presage difficulties from the world economy in 2008 and 2009. The impact of the sub-prime crisis has spread well beyond United States, causing a widespread squeeze in liquidity and credit. The price hikes in primary commodities, fueled partly by speculation that has shifted from financial instruments to commodity markets, added to the challenge for policymaker's intent on avoiding a recession while at the same time keeping inflation under control. The situation has become even more difficult with movements in the exchange rates of major currencies adding to the turmoil in the financial markets, a risk that increased as from the first half of 2008.

The World Bank, in its recent report (2009***),*** revealed the negative effects of the global financial crisis that have caused liquidity and other assets flow into developing

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countries like Nigeria to fall by 41 per cent in 2008. From a peak of $1.2 trillion in 2007, the development finance coming into developing countries dropped sharply to $707 billion in 2008. From the projection, it is revealed that capital flows would fall further to $363 billion in 2009, due to the fact that not a few African banks depend on the international markets for some financing, despite the private capital inflows in foreign exchange or other forms lodged in the banks.

The threat of a reduced capital inflow, hence liquidity available to banks for onward transfers as loan for investment and other purposes would, as further reported by the World Bank ,cause an era of slower growth, which would require tighter and more effective oversight of the financial system. For a large number of developing countries, the outlook depends primarily on future trends in the prices of their primary commodity exports.

The global financial meltdown has exposed the fragility of today's global financial sector. Instead of reducing risk, complex financial instruments have served to spread the impact of risky investments across countries and markets. The recent crisis has shown once again that market discipline is ineffective in preventing recurrent episodes of 'irrational exuberance', when financial firms attempt to extract double-digit returns out of economies that grow at much slower rates as in the Nigerian case. And since financial crises can have major repercussions on the real economy, policymakers have no choice but to bail out parts of the financial sector when systemic threats loom. But such bailouts with moral hazard tendency, also underline the case for tighter prudential regulation.

The current international framework for monetary and exchange-rate policies offers opportunities for speculative activities that are highly profitable for a limited period of time, but ultimately destabilize the entire system. The rapid unwinding of ''carry trade'' activities, aimed at extracting gains from nominal interest rate differentials, presents another threat for the global financial system. The financial turbulence, the speculative forces contributing to commodity price hikes and instability, and the apparent failure of foreign–exchange markets to bring about changes in exchange rates that reflect current account trends suggest that there is an urgent need for reviewing the institutional framework of the global economy. In a recently completed study in

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Nigeria by Alege (2008), certain features of the global economic recession of the 1930s are shown to be at play again in the present economic/financial down-turn both in their immediate causes and effects.

Even though African economies do not have strong financial linkages with the rest of the world, the region has been impacted by the global credit crunch. A combination of factors threaten to keep growth weak, including lower commodity prices, a tougher environment in which to attract funds, a withdrawal of portfolio investment, a shortage of dollars in some markets, and , now, heightened concerns about exchange rate depreciation that have led to a pullback in cross-border lending.

Of all the sources of external financial flows to developing countries, private direct foreign investment (PDFI) has become of more relative vital importance over the years for developmental purposes. This will thus be our main focus in this study, while taking note of the other sources generally.

The high surge of investment in the 1990's, especially in developing countries (sees Tables 1&2), can primarily be attributed to the large-scale privatization of state-owned assets in the Latin American and Eastern European countries, as well as an increase in the number of Mergers and Acquisitions (M&As) worldwide. However, the advent of the new millennium was characterized by a year on year decline in FDI inflows since 2001. This trend stabilized in 2003 with a marginal 2% growth in global FDI flows in 2004. As income levels and domestic savings in African countries are low, many countries will have to seek alternative sources of finance. With Overseas Development Assistance (ODA) declining to countries in Africa, and the volatility of portfolio investment, FDI has become the more desirable source of finance. Global trends indicate that FDI flows have increased drastically over the past four decades, with developed countries receiving a greater share of FDI flows than developing countries. There are vast disparities of flows between the developing regions, with Asia and the Pacific region being at the forefront. Africa continues to be the region that receives the least amount of FDI flows in the world, despite most African governments having attempted to create the conducive and enabling environment for foreign investment through macro-economic

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reforms, improvements in governance, democratization, and trade liberalization.

Consequently, grave concern for the implications of the crisis on the African economies is already noticeable on some macroeconomic variables in many countries. In this respect, besides the slow growth of GDP, issues of exchange rate volatility and rising inflation rates have become worrisome. In particular, the flow of financial resources (aids, bank loans, portfolio investments, and foreign direct investments) to the region, crucial for whatever level of desired growth is being compromised. According to UNCTAD (2008), FDI inflow into Africa rose to an historic level of US$53 billion, a trend that has been noticed during the remarkable growth period: 2003-2007. Will this persist?

In view of the above, several research questions are pertinent. Will the projected downward trend in GDP persist? What are the implications of the various macroeconomic shocks on the economies and financial flows? Will the upsurge in FDI flows in Africa be sustained? What are the policy options to curtail the predicted negative effects of the global financial crisis on African economies? What are the implications of the possible dwindling inflows of financial resources on economic development of African countries? What are the dynamics of the meltdown on our economies? Consequently, the main objective of this paper is to examine policy implications of the current global financial crisis and the effects of the boom-burst on FDI flows, financial and economic development in the region.

The rest of the paper is arranged as follows: Section 2 discusses trends in financial flows and foreign direct investment in Africa. Section 3 presents a brief review of the literature while Section 4 examines the method of analysis including model specification, econometric technique of estimation and data. In Section 5, the paper presents the empirical results and Section 6 draws concluding remarks including policy implications and recommendations.

Trends in financial flows and foreign direct investment in Africa

According to the UNCTAD (2008), after four consecutive years of growth, global FDI inflows rose in 2007 by 30% to reach $1,833.3 billion, well above the

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previous level in 2000. Despite the global financial and credit crises, which began in the second half of 2007, all the three major economic groupings - developed countries, developing countries and the transition economies of South-East Europe and the Commonwealth of Independent States (CIS) – were reported to have continued growth in their inflows (table 2). The increase in FDI as explained, largely reflected relatively high economic growth and strong corporate performance in many parts of the world. Invested earnings accounted for about 30% of total FDI inflows as a result of increased profits of foreign affiliates, notably in developing countries.

In developing countries, FDI inflows are shown to have reached their highest level ever ($500 billion) - a 21% increase over 2006. The least developed countries (LDCs) attracted $13 billion worth of FDI in 2007 – also a record high. At the same time, developing countries continued to gain in importance as sources of FDI, with outflows rising to a new record level of $253 billion, mainly as a result of outward expansion by Asian Transnational Corporations (TNCs). FDI inflows into South- East Europe and the CIS also surged, increasing by 50%, to reach $ 86 billion in 2007. The region has thus seen seven years of uninterrupted growth. Outflows from this region similarly soared, to $51 billion, more than twice the 2006 level. Among developing and transition economies, the three largest recipients were China, Hong Kong (China) and the Russian Federation.

The history of Sovereign Wealth funds (SWFs) dates back to the 1950s, but they have attracted global attention only in recent years following their involvement in some large-scale cross-border M&A activities and their major capital injections into some troubled financial institutions in developed countries. While the amounts invested by SWFs in the form of FDI remain relatively small, they have been reported in UNCTAD (2008) as growing in recent years.

The total value of FDI flows to Africa increased from an annual average of $1.7 billion during 1981 – 1985, to an average of almost $3 billion during 1986-1990. In the early 1990s, flows to Africa remained at that level (Table 1), in spite of a down turn in world-wide investment flows, but also in spite of a continued upturn inflows to the developing countries as a group. The increase of flows to Africa in the second half of the1980s did not give rise to much optimism concerning the prospects of FDI in this

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region not only because the flows were concentrated in a few counties and stagnated in the early 1990s, but also because they were quite modest when compared to FDI flows to other regions of the developing world. Average annual FDI flows to Africa as a proportion of flows to developing countries increased between the first and the second half of the 1980s, from 9 percent to 11 percent (See Table 2).

During the early 1990s, when inflows to Africa ceased to grow while those to other developing countries continued to do so, Africa's share declined drastically, to the level of 5 percent, thus under-lining the marginalization of the continent in relation to FDI flows, apart from its marginalization in relation to international trade.

TABLE 1: FDI inflows to Africa, 1981-1994 (Billions of dollars and per cent)

Region/country	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	Total 1981-1994	Annual averages 1981-1985	1986-1990	1991-1994
All countries	63.7	54.6	50.4	58.5	84.0	136.0	161.4	198.6	210.4	162.3	162.3	163.4	184.5	204.0	1790.6	57.2	158.1	178.5
Developing Countries	20.6	25.7	17.1	18.2	15.4	16.2	22.6	29.0	28.6	33.9	40.3	53.2	71.8	83.6	476.2	19.4	26.1	62.2
Africa	1.4	1.4	1.2	1.4	2.9	1.8	2.5	2.8	4.8	2.2	2.8	3.3	2.9	3.5	35.0	1.7	2.8	3.1
Africa's share in (per cent)																		
All countries	2.2	2.6	2.4	2.4	4.9	2.2	1.9	1.7	2.4	1.0	1.7	2.0	1.6	1.7		2.9	1.8	1.8
Developing countries	6.8	5.6	7.0	7.9	18.5	11.3	11.2	9.6	16.8	6.5	7.0	6.1	4.1	4.2	2.0 7.4	8.6	10.8	5.0
Oil-exporting countries of Africa, (billions of dollars)	1.1	1.0	1.2	1.1	2.5	1.7	1.8	2.1	3.4	1.2d/	1.8	2.3	1.8	2.3	24.3	1.4	2.0	2.1
(Egypt)	0.8	0.3	0.5	0.7	1.2	1.2	0.9	1.2	1.3	0.7	0.3	0.5	0.5	0.5	9.8	0.7	1.1	0.4
(Nigeria))	0.5	0.4	0.3	0.2	0.5	0.2	0.6	0.4	1.9	0.6	0.7	0.9	0.7	0.8	8.2	0.4	0.7	0.8

Source: UNCTAD (1995), ***Foreign Direct Investment In Africa*****,** UNCTAD

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Weak FDI to Africa and an almost total absence of the portfolio equity investment during the early 1990s (when both types of flows to other groups of developing countries were growing) distinguished Africa unfavorably from other regions in terms of the structure of external financial flows. In both Asia and Latin America, FDI has risen to the largest component of net resource inflows. In fact, for them, private capital flows have become larger for the first time in a decade than official flows to Africa. On the other hand, Sub-Saharan Africa has continued to rely on grants and official loans, which constituted the bulk of its resources inflows, while FDI – the only meaningful type of private flows to Sub-Saharan Africa – accounted for some twelve percent of the total.

Investment flows to Africa as a whole were concentrated in – and therefore largely determined by – the continent's nine oil – exporting countries. These alone accounted for over four-fifths of the flows to Africa during the first half of the 1980s. Later, their share declined but remained at the high level of two – thirds at the beginning of the 1990s.

In Africa, high commodity prices and rising profitability as shown in UNCTAD (2008**),** have been attracting FDI .Thus, FDI inflows grew to $53billion in 2007 – a new record. Booming commodity markets, rising profitability of investments – the highest among developing regions in 2006-2007 – and improved policy environments fuelled inflows.

Prospects for increased FDI inflows in 2008 were considered promising in light of the continuing high prices of commodities, large projects already announced for that year and forthcoming payments from previously concluded cross-border M&As. This would have signified a fourth consecutive year of FDI growth but for the financial melt-down. The UNCTAD survey shows that almost all TNCs have maintained or even increased their current levels of investment in Africa.

The mobilization of financial resources for infrastructure investment by TNCs is reported rising, but a vast gap remains. Financial constraints faced by governments were a major reason for an increasing number of developing countries to open up to FDI and TNC participation in infrastructure industries in the 1990s. Indeed, TNC participation in

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TABLE 2: Foreign direct investment (FDI) flows, by region and selected countries, 1995-2007
(Billions of Dollars and percent)

	Flows					FDI Outflows				
Region/economy	1995-2000 (Annual average)	2002	2004	2006	2007	1995-2000 (Annual average)	2002	2004	2006	2007
Developed countries	539.3	442.9	403.7	940.9	1247.6	631.0	483.2	748.9	1087.2	1692.1
Europe	327.9	316.6	218.7	599.3	848.5	450.9	279.9	689.8	736.9	1216.5
European Union	314.6	309.4	214.3	562.4	804.3	421.6	265.6	609.3	640.5	1142.2
Japan	4.6	9.2	7.8	-6.5	22.5	25.1	32.3	45.8	50.3	73.5
United State	169.7	74.5	135.8	236.7	232.8	125.9	134.9	15.4	221.7	313.8
Other developed countries	37.1	42.6	41.3	111.3	143.7	29.2	36.0	-2.1	78.4	88.3
Developing economies	188.3	171.0	283.6	413.0	499.7	74.4	49.6	117.6	212.3	253.1
Africa	9.0	14.6	18.0	45.8	126.3	2.4	0.3	2.3	7.8	6.1
Latin America and the Caribbean	72.9	57.8	94.4	92.9	320.5	21.1	12.1	35.8	63.3	52.3
Asia and Oceania	106.4	98.6	171.3	274.3	319.3	51.0	37.3	79.5	141.1	194.8
Asia	105.9	98.5	170.3	272.9	71.5	51.0	37.2	79.4	141.1	194.7
West Asia	3.3	5.5	20.6	46.0	156.7	0.9	3.2	12.3	23.2	44.2
East Asia	70.7	67.7	106.3	131.9	83.5	39.6	27.6	49.8	82.3	102.9
China	41.8	52.7	60.6	72.7	30.6	2.0	2.5	12.3	21.2	22.5
South Asia	3.9	7.1	8.1	25.8	60.5	0.3	1.8	3.5	13.4	14.2
South-East Asia	28.0	18.1	35.2	51.2	1.2	10.2	4.7	13.8	22.2	33.5
Oceania	0.5	0.1	0.9	1.4	85.9	0.0	0.0	0.1	0.0	0.1
South-East Europe and CIS transition economies)	7.3	11.3	30.4	57.2	85.9	2.0	4.6	14.3	23.7	51.2
South-East Europe	1.2	2.2	3.5	10.0	11.9	0.1	0.5	0.3	0.4	1.4
CIS	6.1	9.1	26.9	47.2	74.0	1.9	4.1	14.0	23.3	49.9
World	734.9	625.2	717.7	1411.0	1833.3	707.4	537.4	8808.0	1323.2	1996.5
Memorandum; percentage share in world FDI flows										
Developed economies	73.4	70.8	56.2	66.7	68.1	89.2	89.9	85.0	82.2	84.8
Developing economies	25.6	27.4	39.5	29.3	27.3	10.5	9.2	13.3	16.0	12.7
South-East-Europe and CIS (transition economies)	1.0	1.8	4.2	4.1	4.7	0.3	0.9	1.6	1.8	2.6

Source: UNCTAD (2008), *World Investment Report 2008.*

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infrastructure in developing countries has resulted in the inflow of substantial financial resources. As mentioned earlier, the stock of infrastructure FDI in resources surged after 1990. In addition, the $4246 billion foreign investment commitments in infrastructure in developing countries in the period 1996-2006 represented an average of 29% of all PPI investment commitments. This reflects the importance of TNCs contribution to these industries in developing countries, with the highest share in Africa (36%). Despite significant levels of TNC investment in developing-country infrastructure, more of it is required to bridge the vast financing gap: there is need for substantial amounts of additional investment, irrespective of source.

Foreign direct investment and migrant workers' remittance of part of their earnings back home are reported to have become more important sources of finance for developing countries than private lending. According to a World Bank report (2003), in year 2002, payments on private debt were larger than new loans, so private debt flows were a net negative for developing countries. There has been a decline in private lending to developing countries. According to the report, net private debt flows to developing countries – bonds and bank loans – peaked at about $135 billion a year in 1995-96, and has since declined steadily, becoming net outflows in most years since 1998. Net debt flows from private sector creditors were negative again in 2002 – developing countries paid $9 billion more on old debt than they received in new loans.

Net FDI has declined from a 1999 peak of $179 billion to $143 billion in 2002, but remains the dominant source of external financing for developing countries. Net portfolio flows were $9 billion, bringing total equity flows (FDI) and portfolio) to more than $152 billion. Workers' remittances reached $80 billion in 2002, up from $60 billion in 2001. Net lending by official creditors to developing countries was positive, at $16 billion, with another $32.9 billion provided in grants.

LITERATURE REVIEW

Views on foreign direct investment

A sharp polarization of views colored the debate on private foreign direct investment in the first decade following World War II. One view was highly favorable to

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private foreign direct investment. The developing countries' shortage of capital was regarded as the prime constraint on development. It was argued that they had little or no access to capital market, and considerable difficulty in attracting private direct foreign investment outflows from developed countries. Prospects for a revival of international capital markets were thought to be poor after the financial disorders of the 1930s. Private foreign direct investment was thus viewed as the greatest potential source of resources lacking in less developed countries. It would supply not only capital, but also entrepreneurship, technology, management and marketing.

At one extreme was a highly critical assessment of the impact of such private foreign direct investment in the third world, a view originally articulated in the fifties by Singer (1955), and some other economists of the ECLA School. These critics wrote against the backdrop of the classical colonial or neo-colonial pattern which dominated foreign direct investment prior to the early 1950s. According to this view, foreign direct investment was largely concentrated in extractive industries of poor countries. Because primary industries provide only weak linkages, backward or forward, with the rest of the economy, little indigenous development radiated spontaneously. These investments essentially became small industrial enclaves of the rich countries themselves. In concentrating on the primary sector, moreover, foreign direct investment, according to Prebisch (1959), tended to reinforce a pattern of development which, over the long run, would trap the poor countries in their poverty because of the inevitable deterioration of their terms of trade. At the same time, rich countries would gain both from high financial returns to their investors and from ensuring a continued flow of relatively cheap raw materials for their own industries.

A widely held view, disputed in a study by Blejer and Khan (1984), is the assertion that modern investment theory is not applicable to developing countries. According to this traditional approach, institutional and structural forces present in these countries invalidate the assumptions underlying standard investment functions. In their paper, Blejer and Khan (1984) estimate the model for 24 developing countries and find a direct and systematic link between private investment flows and government policies. The model suggests not only that monetary policy – by affecting the real flow of credit –

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will have a direct effect on private investment decisions but also that fiscal policy will play a direct role. Using changes in government investment as a proxy for changes in fiscal policy, they show that contractions in real government investment not related to infrastructure will lead to an increase in private investment as physical resources are freed. By contrast, a decline in government investment in the infrastructure component of public investment will tend to depress private investment, since these types of capital outlays are complementary. Blejer & Khan (1984) thus conclude that to the extent possible, governments adopting a tight fiscal stance should concentrate any investment cuts on capital outlays not related to infrastructure.

Impact of foreign direct investment on the economy

The impact of FDI and TNCs on a country depends on many factors, such as the role of TNCs in the economy, the sector in which FDI is undertaken, the type of investment (e.g. export-oriented or import-substituting), links of foreign affiliates with the host economy and, last but not the least, on the conditions in the host economies. African countries, as many other countries, have gone through a long and drastic evolution in this respect: from seeing TNCs as part of the problem (to be solved by minimizing the role of TNCs), as they are now considering them as part of the solution and hence are competing with other countries to attract them. As shown by UNCTAD (1995), the expectations of some countries may be too high as to the role that FDI can play in promoting economic growth. Some may be disappointed because TNCs do not invest in their economies in spite of extensive regulatory reforms, or do not exert the expected positive impact. Others narrow their expectations to quick financial effects (regarding resource flows or the balance of payments) and do not appreciate qualitative, indirect contributions to, for example, technology or skill development. Inadequate statistical data on FDI and the performance of TNCs in Africa make it very difficult to assess their overall and specific impacts on national economies. What exists- a fragmented literature (for the most part not up to date) and some limited data on some aspects of FDI- allows only cautious conclusions about the scope and the directions of possible impacts in a number of areas.

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Output and employment

The most aggregate impact of foreign affiliates on host countries is their contribution to output and job creation, measured by their share in GDP and other economic aggregates (e. g., employment). Such measures are, as noted in UNCTAD (1995), difficult to come by because countries usually do not collect this type of data separately for foreign affiliates; wherever estimates exist are from special studies. The share of TNCs in the output of Nigeria, as noted by Aremu (2005), before the indigenization decrees of 1972 and 1977 was estimated at 40 percent and in that of Kenya at 20 per cent in 1963. According to UNCTAD (1995), the importance of TNCs in African countries tended to decrease when many of them asserted national control over their economies by, among other things, limiting the role of FDI. In the case of Nigeria, the share of TNCs in output fell to 20 per cent by 1986.

Data for Kenya based on employment in majority owned foreign affiliates also show a decline to 7 per cent or 80,000 out of 1.1 million employees in the formal sector. Even though these shares declined, they are not that low, measured by the standards of developing countries that receive significant amounts of FDI; for Hong Kong, a major host developing country, the share of foreign affiliates in the sales of the secondary sector in 1987 was 17 per cent, and for the Republic of Korea, it was 22 percent (1986). In smaller and some mid-sized African countries, the contribution of foreign affiliates to employment, production and investment is much higher, particularly with respect to manufacturing employment, as found by Basu & Srinivasan (2002), In Mauritius, for example, they accounted for 65 per cent of overall employment in 1984; and in Ghana (1986) and Tunisia (1988), for around half of manufacturing employment. Figures on affiliates' shares in production for countries such as Botswana, Gabon or Seychelles are also very high. Interestingly enough, TNCs play a relatively important role in a number of countries that have not received sizable FDI flows since several years or that even experienced disinvestment. A case in point has been Zimbabwe which experienced net disinvestment of $76.4 million during 1980-1993; yet TNCs continue to play an important role there, accounting for a quarter of the assets in manufacturing.

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The activities and, therefore, the impact of TNCs in most African countries are concentrated in few, and sometimes even only in one industry, where their quantitative role is then obviously much greater than their average in the economy as a whole. Clearly, in those countries in which FDI is concentrated in the development and export of natural resources, notably in the nine oil exporting countries, it has played (and continues to play) an important role in sharing high exploration and development costs, bringing know-how and technology and sustaining and expanding exports. The spillover benefits of this type of investment are usually minimal, although they need not be so. Links to the local economy are few and they are sometimes restricted by the host country. Oil and mining companies use local labor, but most of their other inputs are imported and almost all of their output is exported. Benefits from this type of FDI for the rest of the economy largely depend on how governments manage their relationships with TNCs and how they use (often fluctuating) revenues from FDI in the primary sector. As reported in our paper (Ojo, 2007), Botswana is an example of a country that, relying on FDI in the development and export of its natural resources (mainly diamonds), advanced from the group of the world's poorest countries at its independence to the group of middle-income countries by 1990, a feat achieved by relatively few countries.

FDI and Economic Growth

In international development policy, the positive contribution made by foreign direct investment to the development of the poorer countries-for example, the transfer of modern technology, management and marketing methods, the stimulation of underdeveloped economic structures, the improved training facilities available for national personnel, the expansion of export opportunities, the consequent increase in import capacity as a result of higher export earnings and so on-is basically undisputed not only in the industrialized countries, but also in the majority of developing countries.

Most developing countries welcome foreign investment as an essential vehicle for the economic progress they are striving to achieve. However, because of their desire for economic sovereignty, they often wish to have a share in decision-making in foreign investment, for the purpose of exercising varying degrees of control over the activities of foreign enterprises. This attitude is understandable, but in the minds of foreign investors

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it often gives rise to considerable uncertainties regarding the "real" intentions of the governments of host countries.

Empirical studies on the developmental impact of FDI falls into two groups; firstly those that are concerned with the overall effect of FDI on overall development, and secondly, those that are concerned with specific aspects of FDI on employment, poverty reduction, etc. However, there appears to be a general lack of consensus in the economic literature on the issue of the impact on growth that FDI really has on a country. Despite this lack of consensus, many international organizations such as UNCTAD, IMF and World Bank acknowledge the positive contribution that FDI makes towards economic development. It should also be noted that FDI could exert both a direct and an indirect impact on growth. FDI is said to directly promote growth if there is an increase in the investment rate and production. The indirect impact of FDI on growth is the impact of the positive spillovers on the growth rate and welfare of the people.

The attraction of FDI is seen as vital in addressing developmental issues such as poverty without incurring additional debt. This is based on the assumption that FDI will not only drive capital inflows, but also stimulate greater technological know how, higher paying jobs, entrepreneurial and workplace skills, and new export opportunities. Traditional arguments in favor of FDI propose that FDI inflows increase the country's capital stock; and stemming from growth and trade theory, capital inflows may increase GDP in the capital-importing country. The *new growth theory* supports the principle that FDI can be a vital contributor to the promotion of economic growth. Recent arguments advocate that FDI is an important technology transfer vehicle, and that technology is a major source of sustained FDI growth.

However, whilst there are notable positive spillover effects that may emanate from FDI, it is also important to take cognizance that increased FDI does not necessarily result in increased economic growth. There are some empirical literatures that are skeptical of FDI being an engine of growth and refute the positive relationship between FDI and economic growth outright. Carkovic & Levine (2002) conclude that they found that FDI inflows did not exert an independent influence on economic growth, and that other growth factors are needed in order to spur a positive impact on growth. Other

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studies prescribe that certain prevailing conditions must be met in order for FDI to enhance growth, e.g. Borensztein, Grogorio & Lee (1995), found that the effect of FDI depended on the level of human capital. Other conditions for FDI to enhance growth have been shown to include countries with developed infrastructure, macroeconomic stability and lower country risk (Lumbila, 2005).

Causality between FDI and Growth

On the issue of causality between FDI and growth, it was noted by Moodley (2006) that the issue of demand-following FDI indicated that FDI will flow to countries with high growth rates, whereas supply-leading FDI indicated that high growth rates would tend to follow FDI. However, the empirical literature on this issue appears rather inconclusive from study to study and place to place. For instance, Chowdury and Mavrotas (2005) in testing the causal relationship between FDI and economic growth in Malaysia, Thailand and Chile, found that it was GDP that caused FDI in the case of Chile, whilst for both Malaysia and Thailand, there was strong evidence of a bi-directional causality.

FDI: Benefits and Costs

Inflows of capital usually accompany FDI, but in some cases, they may be its least important features. FDI, usually featuring some accompanied package, may also bring improved management, new production techniques, quality control, and access to foreign markets that would otherwise be difficult to develop, as well as exerting competitive pressures on local producers, in the markets for labor as well as for goods and services. If FDI was stimulated by protection against imports, its contribution to real national income may be negative, even while it is privately profitable because of the high domestic product prices.

FDI can encourage the adoption of new technology in the production process through capital spillovers; and FDI may stimulate knowledge transfers, both in terms of labor training and skill acquisition as well as by introducing alternative management practices and better organizational arrangement. FDI can create employment in host economies, and become vehicles for the transfer of technology, provide superior skills and management techniques to host economies.

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FDI can also assist in the capital formation process, facilitate access of local firms to international markets, increase product diversity, facilitate the use of environmentally clean technology, help the observation of human and labor rights within the country, and create linkages for the host country. It should be noted, however, that reliance on FDI as a development tool harbors some risks and costs as well as benefits. Hausmann and Arias (2000) revealed that such risky countries with FDI flows being a large proportion of total flows are usually those richly endowed with natural resources, while having underdeveloped financial institutions and other weak institutions. The differing investor motives that drive FDI flows also have varied effects on the growth rate of a country. Resource seeking FDI in the primary sector is often criticized for having few linkages to the local market and may lead to corruption and embezzlement of funds. This may negate the potential positive effects on the host country. Thus, as we have shown in the case of Nigeria (Ojo, 2007), a phenomenon known as the "resource curse" may feature, whereby countries that are rich in natural resources tend to perform below expectation, and are economically worse off than countries that are not so much endowed with natural resources like petroleum. Efficiency seeking FDI, on the other hand, is likely to encourage technology and increase the host country's revenue from foreign exchange that benefits the local market; which could have a positive growth impact on the host country. Market seeking FDI, aimed at seeking access to the local market in anticipation of growth, can increase access to new products and create a competitive local environment.

The negative effect of the increased level of competition results, if this get crowded off local firms out of the market. In addition, market-seeking FDI has been further criticized for rising inequality between groups of individuals in the host country, eroding the tax base and for increased environmental degradation. Market seeking FDI, therefore, as concluded by Nunnenkampand Spatz (2003), has a lower growth impact than efficiency seeking FDI.

Despite the FDI boom of recent years, the world's poorest countries, in the least developed countries group, are reported by UNCTAD (2007) to be falling further behind developing and developed peers in terms of technology, a problem that foreign

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investment flows are failing to redress. As reported by UNCTAD (2007), the world's least developed countries (LDCs) had seen a marked economic improvement but this remains fragile as it is largely driven by investment into the commodity sector. The report said foreign direct investment flows into LDCs had increased substantially since the early 1990s, with 2000-2005 level three times the level of the past 10 years and surpassing wealthier developing nations. But as the Report added, there has been little evidence of a significant contribution by FDI to technological capability accumulation in LDCs.

The study reflected the ineffectiveness of foreign aid over the years. Foreign aid to these countries has been largely ineffective because it has failed to recognize the importance of knowledge and innovation in driving development. As further reported, foreign aid and investment flows are not building sufficient technical know-how, infrastructure or innovative business that would enable the poorest countries to develop independently and create jobs in the longer term. Between 2003 and 2005, about $1.3 billion in official development aid was devoted to governance or social issues in the poorest countries, while just US$12 million was spent on agricultural technology that could strengthen crops and food production.

METHOD OF ANALYSIS

Model specification and Data

The theoretical base of the paper is rooted in international trade, new growth and financial theories. FDI flows are facilitated by accommodating trade policies: trade restrictions will endanger trade whereas trade openness will boost financial flows, particularly FDI. The flow of FDI to developing countries of Africa is crucial for economic growth. It has achieved this by adding to domestic capital formation, through the rapid and efficient transfers of both managerial and technical 'best practices' as well as of technology transfer Moodley (2006).

Consequently, the flow of FDI depends on the growth factors, real GDP, the degree of openness of an economy, the domestic exchange rate in relation to the US$1.00 and the domestic interest rate. Thus, the paper assumes a non-linear relationship between FDI and these variables in a multi-country panel data set with a view to estimating a

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common macro-dynamic structure of the countries considered in the paper. The paper formulates and tests our common-model structure in a Vector Auto-regression (VAR) framework, subject to the restrictions of homogenous slope coefficients and error term. We, thus, specify an extended Solow-type model in the spirit of endogenous growth model which can be written as follows:

$$FDI_{it} = f(GDP_{it}, OPN_{it}, EER_{it}, INT_{it}) \quad (1)$$

Where FDI_{it} = Foreign Direct Investment flow to country i in time t, GDP_{it} = real Gross Domestic product of country i in time t,OPN_{it} = (Export + import)/GDP as a measure of the degree of openness of country i in time, t, EER_{it} = Nominal exchange rate of the currency of country i currency in relation to US$1.00, and INT_{it} = domestic interest rate of country i in time t.

The level of FDI is used in this study as the dependent variable. The World Development Indicators (WDI) has two measures of FDI namely: the Gross FDI and the Net FDI. The former is the sum of net inflows and outflows accounted for in the balance of payments accounts while the latter is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-run capital as contained in the balance of payments accounts. In this paper Net FDI is used.

There are, to date, literature on relationship between growth of an economy and inflow of FDI. Empirically, even though FDI flows may affect growth, growth by itself is a crucial determinant of FDI (Hansen and Rand, 2005). Thus, we have included the level of economic activities as captured by the GDP as an explanatory variable of FDI in-flow. The argument for growth leading FDI is rooted in the evidence that countries with large local markets and higher levels of economic growth tend to attract higher levels of FDI. It is evident that MNCs in such economies are assured of larger markets for their products and future developmental potentials of such countries. In addition, it is expected that countries that experience high growth will be able to implement macroeconomic policies that are conducive to attracting FDI, and tend to attract higher levels of FDI inflows. Consequently, it is expected that there is a significant positive relationship between GDP and FDI flows.

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To capture the importance of trade in this paper, we adopt the notion of degree of openness, OPN, measured as the ratio of the sum of total export and total imports to the GDP. African economies can be regarded as largely open in view of OPN at an average of about 104.85% over the period of study and 82.26% in 2007 only. There are two opposing poles on this issue. In a closed economy, FDI substitutes for trade as argued by Singh and Jun (1995). By selling directly to residents within the host economy, foreign direct investors may overcome natural or policy-induced barriers to market access and hence substitute for trade. From the other end, Chakrabati (2001) found that openness to trade was more 'likely' to be correlated with FDI than any other variables, and hence countries participating in international trade are therefore encouraged. Open economies are preferred by market seeking and efficiency seeking investors since there are fewer trade restrictions, broader market access, numerous advantages from international division of labor and wider economic linkages. In addition, openness encourages economies of scales through international markets Lim (2001) and open economies enable countries to capitalize on new technologies and technical expertise that can be gained from the international exposure. Hence, the hypothesis here is that the greater the extent of openness the higher the inflow of FDI to Africa.

Exchange rate is another variable that can explain the flow of FDI to a country. In effect, the exchange rate, EER, is the amount of the national currency required in exchange for one unit of another foreign currency, notably the US$. When this number increases, we talk about depreciation and when it is fewer, we talk of appreciation. This is, however, valid in a floating exchange rate regime. The theoretical expectation is that depreciation will enhance export and lower imports. This position may not be easily attainable in African countries due to the fact that most of them remain mono-cultural, exports are primary goods and imports are essential raw materials and finished goods. Therefore, it is assumed that most African countries may not benefit from this Marshall-Lerner thesis. Although some African currencies are tied to other foreign currencies, it is not out of place to examine the contribution of exchange rate in the explanation of FDI flows to Africa.

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Finally, our model includes domestic interest rate. Our contention is that interest rate is key to the choice of where to and what to invest. In this respect, interest rate differential is an important factor. Recent experiences have shown that African capital markets can significantly influence the direction of investment instead of being passive to the flow of investment. Consequently, the paper investigates the implication of volatile interest rates on the inward flow of FDI to Africa.

The Model

Equation (1) is nonlinear in its implicit form in the explanatory variables. Thus, its explicit form can be written as follows:

$$FDI = \alpha_0 GDP^{\alpha_1} OPN^{\alpha_2} EER^{\alpha_3} INT^{\alpha 4} e \qquad (2)$$

Linearizing equation 2 by taking the logarithms of both sides of the equation enables us to apply the classical ordinary least squares technique of estimation so that the equation becomes:

$$\ln FDI_{it} = \beta + \alpha_1 \ln GDP_{it} + \alpha_2 \ln OPN_{it} + \alpha_3 \ln EER_{it} + \alpha_4 \ln INT_{it} + \varepsilon_{it} \qquad (3)$$

Where $\beta = \log \alpha_0$ and $\varepsilon = \log e \sim iidN(0, \sigma^2)$. This logarithm transformed equation can be written with the lower case letters as:

$$fdi_{it} = \beta + \alpha_1 gdp_{it} + \alpha_2 opn_{it} + \alpha_3 eer_{it} + \alpha_4 \text{int}_{it} + \varepsilon_{it} \qquad (4)$$

Equation (4) is a simple panel fixed effects model (FEM) specification, as in Husain, Tazhibayeva and Ter-Martirosyan (2008). However, in assessing the impact of economic shocks on the economy of a given nation, it is imperative to take into account the frequent spill over effects of such disturbances on other countries. The transmission trajectory is even more critical in developing countries. It is, therefore, desirable to use appropriate econometric technique that allows us to investigate this transmission mechanism across countries. This paper employs the restricted panel data Vector Auto-regression (PVAR) approach.

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The general framework of an individual country model in a PVAR can be written as in Gavin and Theodorou (2004: 4) and Assenmarcher-Wesche and Gerlach (2008: 8) as follows:

$$Y_{it} = A_{it} + B_i(L)Y_{it-1} + V_{it} \tag{5}$$

$$\text{where } Y_{it} = \begin{bmatrix} LFDI_{it} \\ LGDP_{it} \\ LOPN_{it} \\ LEER_{it} \\ LINT_{it} \end{bmatrix}; \quad A_i = \begin{bmatrix} \alpha_{yi} \\ \alpha_{gdpi} \\ \alpha_{opni} \\ \alpha_{eeri} \\ \alpha_{\text{int}i} \end{bmatrix}; \quad V_{it} = \begin{bmatrix} v_{iyt} \\ v_{igdpt} \\ v_{iopnt} \\ v_{ieert} \\ v_{i\text{int}t} \end{bmatrix}$$

The vector of endogenous variables are as defined previously in equation 1 for time t and for each of country, i, considered in the paper for i=1,…,27. A_i is a (5x1) vector of country specific intercept terms and $B_i(L)$ is a (5x5) matrix of lag polynomial with the VAR coefficients. The disturbance term, V_{it}, is a (5x1) vector of residuals such that its mathematical expectation is zero and a country-specific variance, σ_i^2 suggesting that the error term is normally identically distributed. The working assumption is that within a country, the disturbances are contemporaneously correlated across equations but serially uncorrelated. For each country i, in the panel model, we can estimate the VAR individually. In this respect, the first equation of the VAR for the individual country can be written as follows:

$$\begin{aligned} y_{it} = \alpha_{yi} + \sum_{j=1}^{n} \beta_{iyyj} y_{t-j} + \sum_{j=1}^{n} \beta_{iy\,\text{lg}dpj} y_{t-j} + \sum_{j=1}^{n} \beta_{iylopnj} y_{t-j} + \\ \sum_{j=1}^{n} \beta_{iyleerj} y_{t-j} + \sum_{j=1}^{n} \beta_{iy\,\text{int}\,j} y_{t-j} + V_{it} \end{aligned} \tag{6}$$

The lower case letter indicates the natural logarithm of the various independent variables. In the above settings, there are four other similar equations for each of the

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endogenous variables including gross domestic product, GDP; degree of openness, OPN; exchange rate, eer; and domestic interest rate, int.

The PVAR equations for all the 27 countries in the model are obtained by stacking the five-equation system in equation (5) for each of the countries to create a larger system that can be estimated by OLS technique given the cross-country assumption. The advantages of using panel data include (1) ability to increase the precision of regression estimates by increasing the number of observation and thus the degree of freedom, (2) control of individual fixed effects that allows for individual country heterogeneity, and (3) the ability to model temporal effect without the problem of aggregation bias.

Technique of Estimation

The equation to be estimated is the natural logarithm of equation 5. The method of estimation for equations 4 and 5 is informed by the objective of the study and the nature of data available for the study. Just as in Walker and Punzi (2007: 10), the panel VAR model used in this paper allows us to test for the response of FDI flows from within an individual economy to the specific GDP, OPN, eer, and int faced by investors in that economy, while allowing for the possibility of elasticities, and changes in elasticities among different countries.

According to Walker and Punzi (2007), "the use of vector autoregressions in panel data setting is still relatively new and there are some variations in the methods used by different researchers". For example Gerlach (2008) use panel data to investigate the fact that the effects of economic disturbances frequently spill over to other countries. Others have used panel data to examine international transmission of shocks in a multi-country VAR framework (Canova and Ciccarelli, 2006; Peseran, Schurmann and Weiner, 2004; and Dees, Mauro, Peseran, and Smith, 2006).

This paper employs the fixed effects (FE) and the random effects (RE) methods in estimating the parameters of the simple panel model. The FE and RE models allow us to capture country specific determinant that drive FDI inflow to Africa. The FE regression enables us to control for omitted variables that differ between cases but are constant over time. Therefore, in equation 4, individual differences are captured by

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differences in the intercept parameter. Similarly, the RE regression is used when some omitted variables may be constant over time but vary between cases, and others may be fixed between cases but vary over time. Hence, individual differences are treated as random rather than fixed.

The paper uses the panel VAR to assess the dynamic effects of financial shocks on the macroeconomic variables considered in the model. In doing this, the impulse-response functions, (IRFs) are employed. Alege (2009) observes that the main strength of the method lies in the fact that it helps to observe impulse-response mechanisms, study variance decomposition of variables in the system, for forecasting, causality and policy analysis. With a multi-country panel nature of the data, one important issue is scalability (Walker and Punzi, 2007). In effect, there are substantial variations in the FDI and GDP data of the countries selected for the study, suggesting that regressions with these variables may produce inconsistent estimates of some coefficients. In order to circumvent this problem, we effect logarithmic transformation of equation (2) which reduces the extent of variations between the data from the different countries.

It is the norm to determine the lag length and ordering of variables in a VAR process. In this case we have VAR (p), p=1, 2, 3 and 4 and run the estimation of the model. The model with the minimum AIC is one with the lag length of 2. We, thus, apply a lag length of two. The ordering of the variables is chosen to highlight the dynamic effects of innovations on some macroeconomic variables. Thus, GDP is ordered first, followed by OPN, and then comes eer and finally, int.

Data Sources

The empirical analysis reported in this paper is based on a yearly data (1987-2007) and a sample of twenty-seven (27) African countries. The number of countries included in the paper is informed by data availability over the period of estimation. The data used in the model are those of foreign direct investment (FDI); gross domestic product (GDP); degree of openness (OPN); nominal exchange rate (EER); and domestic interest rate (INT). The interest rates are the lending rates in each of the selected countries except in the case of Cote D'Ivoire, Benin and Seychelles, where non availability of this variable constrained us to use the deposit rate. All figures are in 1990

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constant US dollar prices obtained from UNSTAT (2008) and IMF (2008), International Financial Statistics.

The data on FDI are on net basis measuring capital transactions' credits less debits between direct investors and their foreign affiliates. Net decreases in assets or net increases in liability are recorded as credits (with positive sign), while net increases in assets or net decreases in liabilities are recorded as debits (with negative sign). Hence, FDI flows with a negative sign indicate that at least one of the three components of FDI is negative and not offset by positive amount of the remaining components. These are called reverse investment or disinvestment (Stengos and Kottaridi, 2008: 11). In cases where the observed net flow is negative, we took the absolute value of the figures so as not to violate the rule of logarithm. (See also Okodua, 2009). For this restriction, we had Gabon (4 cases), Mali (2 cases), Niger (3 cases), Togo (1 case) and Sierra Leone (4 cases). The list of countries selected for this study is found in table 3.

Table 3: Descriptive Statistics

	LFDI	LGDP	LOPN	LEER	LINT
Mean	4.417396	8.497711	-0.357552	3.656918	2.527742
Median	4.202900	8.342364	-0.396753	4.055385	2.540814
Maximum	8.992557	12.09941	1.430311	8.471961	4.730127
Minimum	-2.302585	5.609472	-2.659260	-4.173388	0.887891
Std. Dev.	2.202119	1.624984	0.589535	2.489591	0.620096
Skewness	0.139087	0.209417	-0.448091	-0.267983	0.069013
Kurtosis	2.684597	2.177051	4.657730	2.317735	2.669102
Jarque-Bera	4.148830	20.00218	83.30551	17.65817	3.015451
Probability	0.125630	0.000045	0.000000	0.000146	0.221413
Sum	2486.994	4784.211	-201.3016	2058.845	1423.119
Sum Sq. Dev.	2725.322	1484.003	195.3240	3483.313	216.0999
Observations	563	563	563	563	563

Source: Authors' Computations

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EMPIRICAL RESULTS

Preliminary Data Analysis

Table 3 shows the descriptive statistics of all the panel variables used in the study. The table reports the mean, median, maximum, minimum, standard deviation, skewness, kurtosis, Jargue-Bera and the probability values. The total number of observation in the paper is also indicated and given as 563. All the figures are the logarithms of the variables. In particular, the table shows that Lfdi, LGDP, and Lint are positively skewed while LOPN and Leer are negatively skewed indicating that the distributions of the variables are asymmetrical. The values of the Kurtosis indicate the the distribution of all the variables are leptokurtic which is not surprising given the fact that the data in the study are from non similar economies.

In table 4, we test for the strength of multi-collinearity among the variables in the model. It is well known that the only problem is that of how strong the multi-collinearity is but not of existence. All figures in the matrix show that there is no perfect correlation between any two variables. Therefore we conclude that multi-collinearity is not a potential problem in the estimation and interpretation of results.

Table 4: Correlation Matrix

	LFDI	LGDP	LOPN	LEER	LINT
LFDI	1.000000				
LGDP	0.710505	1.000000			
LOPN	0.082639	-0.366831	1.000000		
LEER	-0.278859	-0.121698	-0.325315	1.000000	
LINT	-0.072249	-0.139832	0.108976	-0.176706	1.000000

Source: Authors' Computations

Panel VAR Fixed and Random Effects Estimation Results

The empirical part of this paper deals with the estimation of the linear model given in equations (2) and (3). Tables (5) and (6) present the results of the OLS technique applied on equation (4). We report the fixed effects as well as the random effects estimates. The fixed effect results indicate as expected that increasing economic activity,

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Table 5: Panel Data Estimation Results

Lfdi	Fixed Effects			Random Effects		
Variable	Coeff.	SE	t-Stat .	Coef	SE	t-Stat
C	-12.4622	3.2333	-3.8543	-6.8427	1.2308	-5.5596
LGDP	2.0476	0.3793	5.3981	1.3979	0.1358	10.2905
Lopu	0.9907	0.2556	3.8756	1.3131	0.2228	5.8947
Leer	0.0356	0.0701	0.5076	0.0585	0.0484	1.2094
Lint	-0.1171	0.1901	-0.6159	-0.1435	0.1346	-1.0666
R^2	0.814790			0.324313		
$\bar{R}$dj	0.804346			0.319469		
AIC	2.838799			-		
SC	3.077398			-		
F- stat.	78.01385			66.95643		
N	27			27		
Observ	563 (unbalanced)			563 (unbalanced)		
Dw	1.416823			1.298181		

Source: Authors' computations using EViews 5.0

Table 6: Fixed and Random Effects Estimation Results

S/No	Country	Fixed Effects	Random Effects
1	Cameroon	-2.2085	-1.4068
2	Gabon	-0.0468	-0.0139
3	Kenya	-3.3263	-2.5244
4	Madagascar	1.9550	0.5335
5	Rwanda	0.3048	0.3902
6	Seychelles	3.1934	1.3165
7	Zambia	0.4833	0.2077
8	Algeria	-1.3761	0.4627
9	Egypt	-0.5162	1.1224
10	Morocco	-0.4187	0.8434
11	Tunisia	0.1670	0.9132
12	Botswana	-0.1631	-0.2180
13	Lesotho	2.6190	1.2792
14	Namibia	-0.1164	-0.5105
15	South Africa	-4.5911	-2.2244
16	Swaziland	1.9500	0.6796
17	Benin	0.3941	-0.0474
18	Cape Verde	2.1321	0.4834
19	Cote d'lvoire	-1.5450	-0.8881
20	Gambia	2.7862	1.0116
21	Ghana	-0.6633	-0.0643
22	Mali	-0.4550	-0.6818
23	Niger	-0.3360	-0.4534
24	Nigeria	-1.4690	0.0260
25	Senegal	-1.5442	-1.1366
26	Sierra Leone	2.2821	1.0506
27	Togo	0.5888	-0.1446

Source: Authors' computations using EViews 5.0

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GDP, has a significant positive coefficient, showing that with rising economic activity in Africa, the inflow of FDI will increase. The magnitude of the coefficient shows that changes in FDI are elastic with respect to the changes in GDP. The coefficient of the degree of openness (OPN), is also statistically and significantly different from zero at the level of 1%. In particular, the elasticity of OPN is almost unitary. These results support the thesis that higher economic activities and trade liberalization encourage inflow of FDI to Africa (Chakrabarti, 2001). However, the coefficients of the exchange rate (eer), and interest rate (int) are not significant even at 10% indicating that changes in these variables do not explain changes in FDI in a significant manner. This suggests that eer and int are not key factors in the flow of FDI to the continent of Africa. This latter result is not unexpected in a region that depends so much on foreign capital, intermediate and finished goods, whatever the direction of exchange rates and interest rates (See table 3); that is, a situation in finance where the availability doctrine predominates over cost doctrine.

The results from the panel data random effect are very close to those obtained from the fixed effect method. As could be observed from table 3, both GDP and OPN have high degree of responsiveness to changes in FDI. The individual country constant terms for both methods are presented in table 4. These figures show marked differences between countries reflecting the divergent socio-economic environment of the countries included in the analysis.

The Impulse Response Functions

The impulse–response functions trace out how the endogenous variables of the model respond to the shocks which the economy undergoes in a given period of time. Figure 1 plots the IRFs from equation (5). The graphs are based on the output of the restricted VAR with analytical response standard error over a horizon of twenty years and cholesky degree of freedom adjusted. They show the response to cholesky one standard deviation. The figure shows the combined graph of the responses, given an impulse from one of the endogenous variables. There are five such combined graphs.

Since the primary concern of this paper is to examine the implications of FDI shocks to a combined response (behavior) of other variables, we concentrate on the first graph. In effect, following a shock to the FDI, the immediate response is a sharp fall in

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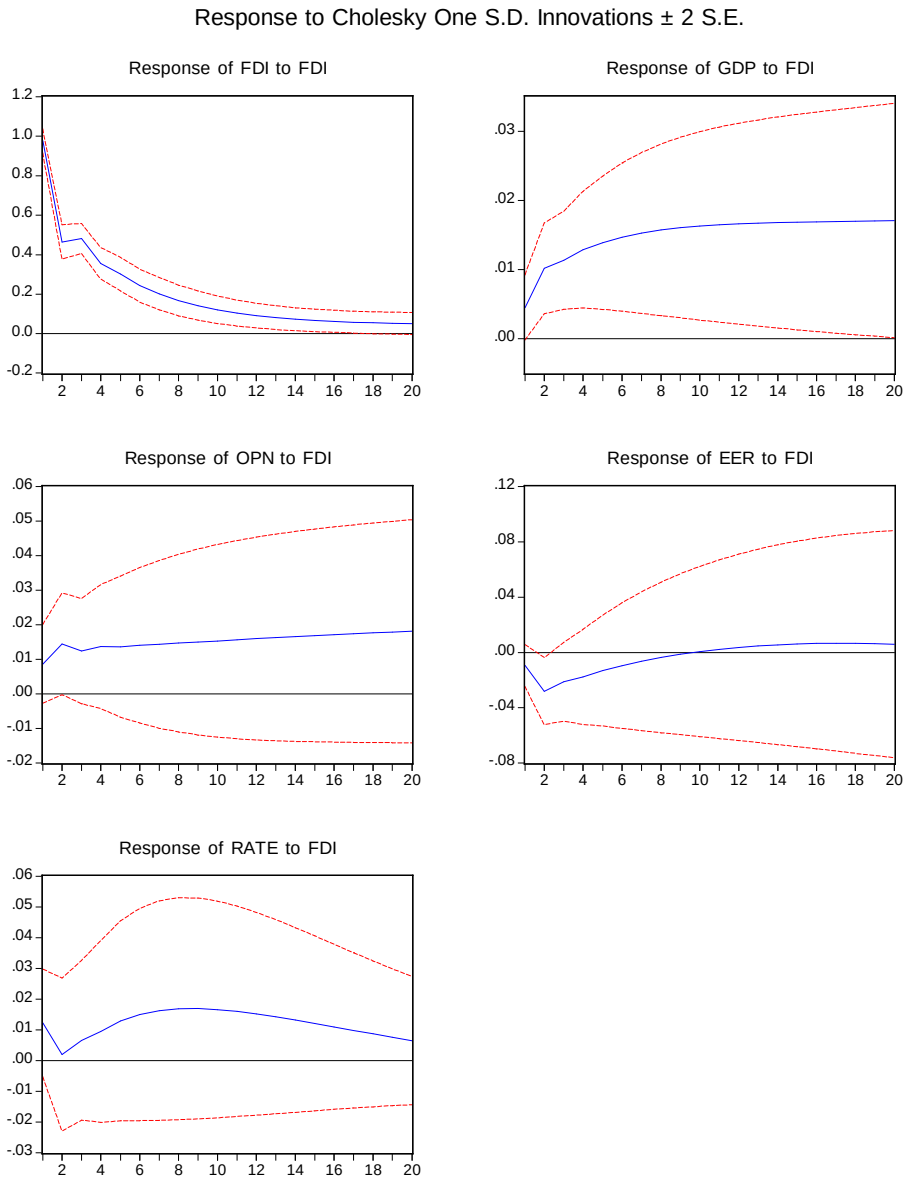
Figure 1: Impulse-Response Graphs



Source: Authors' estimation outputs using EViews 5.0

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FDI flow to Africa with an attempt to level up about the 2nd and 4th periods only to continue to fall uniformly to the steady-state value into the horizon. This FDI-shock provokes a slight increase in GDP on impact and remaining constant over the period. This behavior is not unexpected as the effect of the crisis on GDP is unlikely to be instantaneous, as decision by investors to disinvest takes some time. But in the medium term, the effect of the shock will be amplified if appropriate policies are not put in place. Similarly, a FDI-shock brings about small positive impact on OPN just within the first period, and this remains stable ever since into the time horizon. This result is not strange. In effect, the variable OPN is affected much more by trade policies than any other macroeconomic considerations. The factors are complex in nature since it involves institutional arrangements both domestic and international. The last diagram shows that following a FDI shock, there is an immediate fall in interest rate till end of the second period. From then onwards the graph remains very close to the steady-state but from below.

Finally, exchange rate remains unresponsive to FDI-shock on impact at close to steady-state value even into the horizon. The other graphs in the figure can be examined following shocks from any of the endogenous variables.

This analysis confirms the belief that the ongoing financial meltdown can engineer fall in financial flows to the African region and it is unlikely that the situation will change in the foreseeable future. This result is expected given the precarious position of the African economy in the world. That the exchange rate and domestic interest rates are unresponsive to FDI-shocks confirms again that the African economy is a price/policy taker in the international economy. Finally, the panel gross domestic product epitomizes how dependent African economy may be on the other regions of the world.

SUMMARY OF MAIN FINDINGS AND POLICY IMPLICATIONS

Main findings

In this paper, we have examined the immediate consequences of the current global financial downturn and identified the various source s of financial flows to LDCs and Africa, in particular. We find that African economies depend on FDI, Sovereign

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Wealth Funds (SWFs), non-equity investment and joint ventures as well as migrants' workers' remittances. We reviewed mainly literature on FDI, the impact of FDI on the economy, domestic investment, the issue of FDI and economic growth, and the benefit and cost of FDI.

The paper presents a panel VAR model with the aim of capturing the dynamic effect of FDI-shock on the African economies. Twenty-seven countries were selected in the paper cutting across the continent. We carried out simple panel regression using both fixed and random effect methods. Our results show that gross domestic product and degree of openness are significant determinants of FDI flows whereas exchange rate and domestic interest rate do not seemingly have significant effect on the direction of FDI. We use the panel VAR to study the impulse response functions and the results confirm both theoretical and empirical expectations.

In analyzing some case studies of seven African countries, Basu & Srinivasan (2002) attempted to answer the intriguing question: "Why have some African countries attracted large amounts of foreign direct investment?" They find that, while natural resources, locational advantages, and targeted policies can lure investors, political and macroeconomic stability and structural reforms have been consistently important factors in attracting FDI to the region.

Basu and Srinivasan (2002) find that countries that have successfully attracted large amounts of FDI tend to share certain traits: they promote political and macroeconomic stability on a sustained basis, and they put in place essential structural reforms. Strong, pro-democracy political leadership that has embraced policies to overcome social and political strife and a firm commitment to economic reform are key factors linked with sizable FDI inflows. Prospective investors also tend to favor those countries that pursue sound fiscal and monetary policies, supported by an appropriate exchange rate policy, and promote an operating environment that minimizes obstacles to private sector development. The authors also find that special incentives targeted to foreign investors by themselves do not appear to have significantly helped countries attract well-diversified investment.

Policy Implications – Suggestions/Recommendations

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Policy changes are, therefore, important in Africa as well as some other developing countries. It is important to place emphasis on the fact that policy changes should be mutually beneficial for all parties concerned and should not be designed to benefit only the foreign investor. These policy changes should focus on improving the business climate in general, thereby spurring economic growth that should ultimately lead to an increase in financial inflows.

African countries should encourage private financial flows that are aligned to the country's policy framework. Bearing in mind that the developmental benefits of FDI are not automatic, such policy frameworks should seek to maximize the contribution of the private financial flows in addressing the developmental goals of the country. The decision to implement policies for the attraction of FDI is based on the belief that the benefits from FDI will far outweigh its costs.

Host countries should focus on improving the quality and availability of local labour, as well as the development of sound institutions, which will in turn attract market seeking and efficiency seeking FDI. Policies that are conducive to openness to trade are crucial in enticing the efficiency seeking investor. The creation of functioning and sustainable free trade areas (FTAs) helps expand regional markets and facilitates the movement of goods, services and capital flows. Smaller economies, where the domestic market is limited, can benefit from FTAs potential economies of scale, provided that it is supplemented by sound financial and physical infrastructure. In this aspect, the World Trade Organization's (WTO) concept of Rules of Origin (RoO) will assist in the attraction of export oriented foreign capital by ensuring that final products qualify for tariff or quota free access in their various trade blocs, providing greater market access.

Aggressive trade liberalization and privatization programmes are expected to increase FDI flows to countries with transparent and efficient regulatory, judiciary and lega1 environments, as shown by Aremu (2005) in the Nigerian case. Transparency also reduces the opportunities for bribery and corruption. Policy makers should take into account the need to improve the overall investment climate of the country in general, including mechanisms conducive to domestic resource mobilization (building the domestic financial system and increasing government revenues). Fiscal incentives, (e.g.

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tax holidays and exemptions from import duties), financial incentives (e.g. grants, direct subsidies and loans), low transaction business costs, good infrastructure facilities, communication systems and qualified human capital are mechanisms that can be used to attract international investors. Policy makers should be cautioned, however, that tax holidays do not favour long-term investments and equity financing. Countries with unfavourable locational characteristics will not benefit from fiscal incentives and subsidies, as the public resources could be used more productively in other areas of development.

CONCLUSION

As the global financial/economic downturn persists, African countries are concerned about what happens in regards to development cooperation, aid delivery and FDI, as they face higher borrowing costs and lower export demand as well as weakening currencies, falling remittances, reduced capital inflows and macroeconomic unbalances. While urging the advanced countries to keep their aid promises, African countries are being challenged to use the global downturn to transform their economies by diversifying sources of growth, improving governance and evolving right policies to attract investments to Africa.

It is important to consider the potential role of home countries and the international community in facilitating more foreign investments that seek such inflows. This is particularly relevant from the perspective of low-income countries, which lack domestic capabilities and have generally failed to attract significant TNC involvement in infrastructure.

Risk-mitigation measures by home countries and international organizations can help in the short term to mobilize private financing of infrastructure projects in Africa economies. Special attention may have to be given to measures aimed at mitigating three broad types of risk: political risk (including sub-sovereign and contractual and regulatory risks), credit risk and exchange-rate risks. With the portended real risk that aid flows would become more unpredictable and volatile, as developed countries cut their aid budgets, the need for greater South-South collaboration becomes more pressing.

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